

REMARKS

Claims 1-50 and 58-71 are pending in the application.

Claims 1-8, 13-19, 21, 58, and 60-71 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Gonzalez in view of Graettinger. Applicant requests reconsideration. Pages 3-4 of the Office Action allege that Gonzalez teaches all the limitations of the subject claims except for forming an insulative barrier layer, forming a barrier layer above the elevational height of an electronic device, and forming a globally planar barrier layer. The Office Action relies upon Graettinger as allegedly disclosing the subject matter missing from Gonzalez.

Applicant notes that the present application is a continuation-in-part application claiming a priority date of December 19, 1997. By virtue of the priority claim made in the present application, Applicant asserts that Graettinger qualifies as prior art only under 35 U.S.C. 102(e) with regard to the subject matter relied upon as being disclosed in Graettinger. That is, Graettinger qualifies as prior art only under 35 U.S.C. 102(e) with regard to forming an insulative barrier layer, forming a barrier layer above the elevational height of an electronic device, and forming a globally planar barrier layer. Pursuant to 35 U.S.C. 103(c), Graettinger cannot preclude patentability since Graettinger and the present inventions share a common assignee. At least for such reason, Applicant requests allowance of claims 1-8, 13-19, 21, 58, and 60-71 in the next Office Action.

Claims 22-35 and 61-64 stand rejected under 35 USC 102(e) as being anticipated by Parekh. Applicant requests reconsideration. Applicant notes that Parekh is the priority application to the present application and, pursuant to 35 U.S.C.

09/879.335

120, does not constitute prior art. Applicant requests allowance of claims 22-35 and 61-64 in the next Office Action.

Claims 36-50 and 65 stand rejected under 35 USC 102(e) as being anticipated by Thakur. Applicant requests reconsideration.

Claim 36 sets forth a capacitor forming method that includes, among other features, forming an insulation layer over a substrate including an electronic device, forming an opening into the insulation layer, forming a capacitor electrode at least within the opening, forming a barrier layer at least over all of the insulation layer, and forming a dielectric layer at least over the capacitor electrode. Pages 6-7 of the Office Action allege that Thakur discloses each and every limitation of claim 36. Applicant traverses.

Page 7 of the Office Action alleges that diffusion barrier 122 in Thakur is formed at least over insulating material 116. However, Applicant notes that claim 36 sets forth forming a barrier layer at least over all of an insulation layer. In Thakur, diffusion barrier 122 is only formed between bottom plate electrode 104 and dielectric film 102, as shown in Fig. 1G and discussed in Thakur at least at column 8, line 58 to column 9, line 24. Thakur does not disclose and is not alleged in the Office Action to disclose any teaching that diffusion barrier 122 is formed over all of insulating material 116. Review of Figs. 1A-1G and the text associated therewith confirms the Applicant's assertions. Accordingly, Thakur fails to disclose each and every limitation of claim 36 and does not anticipate claim 36. Claims 37-42 depend from claim 36 and are not anticipated at least for such reason as well as for the additional limitations of such claims not disclosed.

Claim 43 sets forth a capacitor forming method that includes, among other features, forming an insulation layer over a substrate including an electronic device,

09/879,335

forming an opening into the insulation layer, forming a capacitor electrode at least within the opening, forming a dielectric layer at least over the capacitor electrode, and forming a barrier layer at least over all of the insulation layer. As may be appreciated from the discussion above regarding the deficiencies of Thakur as applied to claim 36, Thakur fails to disclose forming a barrier layer at least over all of an insulation layer. At least for such reason, Thakur does not anticipate claim 43. Claims 44-50 and 65 depend from claim 43 and are not anticipated at least for such reason as well as for the additional limitations of such claims not disclosed.

At least for the reasons indicated above, claims 36-50 and 65 are not anticipated by Thakur and Applicant requests allowance of such claims in the next Office Action.

Applicant additionally notes that Thakur qualifies as prior art only under 35 U.S.C. 102(e). Pursuant to 35 U.S.C. 103(c), Thakur cannot preclude patentability of the pending claims since Thakur and the present application share a common assignee.

Claims 9-12 and 20 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Gonzalez in view of Tsunemine. Applicant requests reconsideration.

Claims 9-12 and 20 depend from respective claims 1 and 16 rejected in the Office Action as being unpatentable over Gonzalez in view of Graettinger. Pages 3-4 of the Office Action admit that Gonzalez fails to disclose each and every limitation of claims 1 and 16. For example, Gonzalez fails to disclose or suggest forming an insulative barrier layer to V_t shift inducing material. Tsunemine does not disclose or suggest and the Office Action does not allege that Tsunemine discloses or suggests forming an insulative barrier layer to V_t shift inducing material. Neither reference discloses or suggests the subject matter for which pages 3-4 of the Office Action rely

09/879,335

upon Graettinger. Accordingly, neither Gonzalez nor Tsunemine, considered alone or in combination, disclose or suggest every limitation set forth in claims 9-12 by virtue of their dependency from claim 1 or 16.

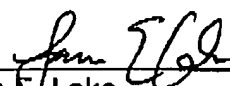
In addition, page 8 of the Office Action alleges that Tsunemine discloses providing V_t shift inducing material over the insulative barrier layer, oxide annealing, and annealing in the presence of a nitrogen-containing oxide. The Office Action relies upon column 10, lines 23-46 of Tsunemine as allegedly disclosing the indicated subject matter. However, review of the referenced text and the remainder of Tsunemine does not reveal any disclosure or even a suggestion of the subject matter alleged by the Office as disclosed in Tsunemine. Applicant notes that refractory metal silicide layer 13e described in Tsunemine is not insulative. Also, Tsunemine merely describes annealing titanium silicide layer 13e with ammonium, hydrogen, or nitrogen and does not mention any oxide annealing or annealing in the presence of a nitrogen-containing oxide. At least for such additional reasons, Gonzalez in view of Tsunemine fail to disclose or suggest every limitation set forth in claims 9-12 and 20.

As asserted by Applicant, claims 9-12 and 20 are patentable over the cited combination and Applicant requests allowance of such claims in the next Office Action.

Applicant herein establishes adequate reasons supporting patentability of claims 1-50 and 58-71 and requests allowance of all pending claims in the next Office Action.

Respectfully submitted,

Dated: 16 Mar 2004

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